

US Coal Mine Methane Conference

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The CMM recovery and utilization in SAADEC

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- **1. The background of SAADEC**
- **2. The CMM recovery of SAADEC**
- **3. The CMM utilization of SAADEC**

1. The background of SAADEC

Shanxi Asian American Daning Energy Co., Ltd

American American Coal Inc.	56%
Lanhua Coal Mining Group	36%
Coal transportation Jincheng Corp	8%

同心绘就美好蓝图 携手共建现代矿井

—公司工业广场规划方案展示—

公司工业广场鸟瞰图



公司工业广场南山平面图



南山伊欧瓦雷尔图



Shanxi Asian American Daning
Energy Co., Ltd



SAADEEC, Shanxi Asian American Daning
Energy Co., Ltd is the first joint venture for
Underground coal mine in China

It is located 16km north of Yangcheng county,
Jincheng, Shanxi Province

There are 16 coal seams with mainly 3#
and 15# minable all the area.

The coal rank is anthracite

The SAADEC will only mine 3# coal
seam with designed capacity of 4Mt.

2. The CMM degasification of SAADEC

The gas content in SAADEC is 18-21 m³/t

In Seam directional drilling (Fletcher-VLD)

Gathering pipeline (820mm-377mm-225mm)
33''-16''-8''

Surface degas pumping system

The VLD directional drill rig



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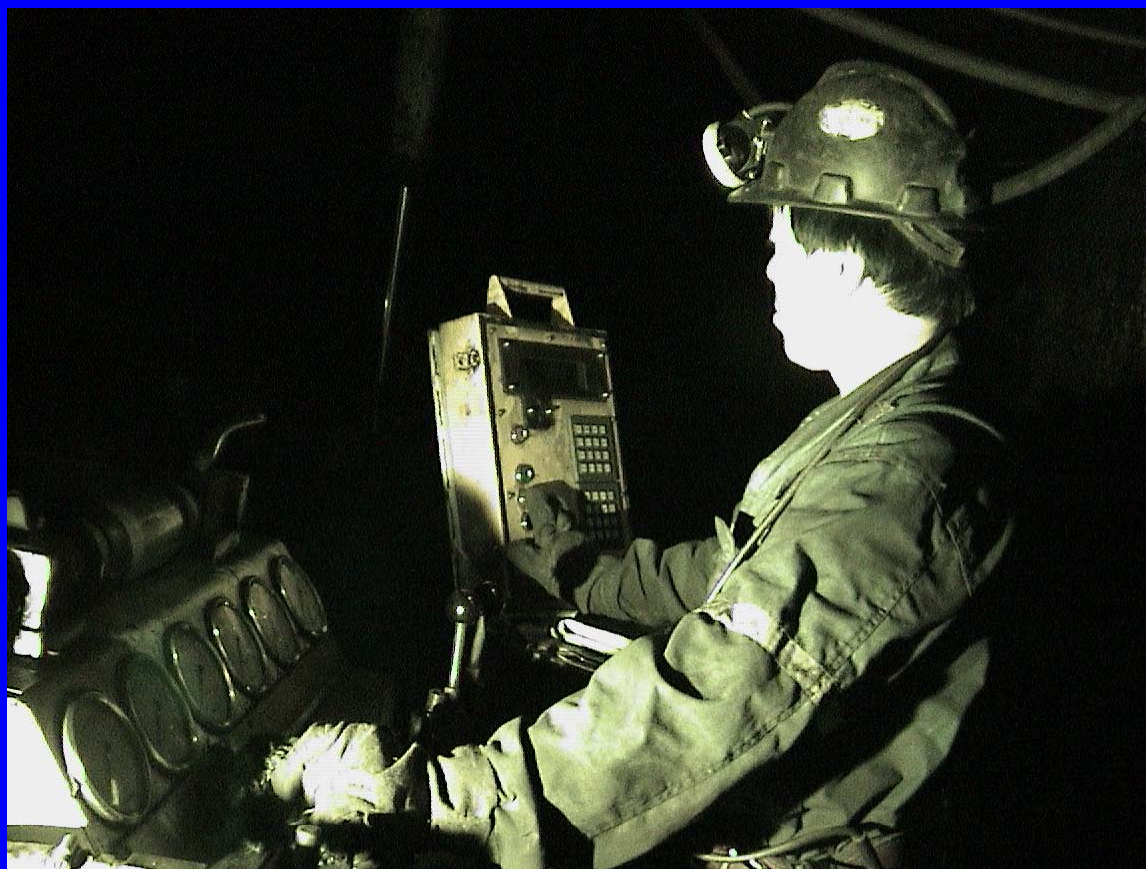
VLD rig work underground



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The VLD directional drill rig work with DDE MECCA



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Main degas pipeline 820mm(33'')



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Main pipe connect branch pipe



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Main pipeline connect with borehole



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Powerful degas pump system

- There are 7 sets degas pumps
- Each of degas pump can reach 420m/min
- And now 4 pumps work parallel to keep the degas borehole mouth negative pressure up to 30-40kPa.

The degas pump house



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The degas borehole layout pattern

- 1. Cross panel drilling
- 2. Block drilling (in one site, there drills over 20 boreholes to cover a area of 0.5km^2)
- 3. Cross measure borehole drilling for capture gob gas

• Underground degas drilling

- Domestic drillers: 802 boreholes
• with drilling 81915.5m
• average
- Fletcher drill rig 111 boreholes
• with drilling 23391.3m
• average 210.732m
- 3 sets of VLD rig 964 boreholes
• with drilling 630553m
• average 654.1米
- The UG total : 1877 boreholes with total drilling 735859.8m
• average 392米
- **Total 1075 directional boreholes with drilling of 653944.3m**
- **Average: 608.32m**

The effect of SAADEC degas

- In 2002, it is degasified 6.72 Mm³
- In 2003, it is degasified 38 Mm³
- In 2004, it is degasified 48 Mm³
- In 2005, it is degasified 78 Mm³
- In 2006, it is degasified 142.67 Mm³
- (average daily recovered 400,000m³) 14Mcft/day
- In 2007 Jan. – Aug. total recovered CMM 100109165m³
- The accumulated degasified CMM gas is 413.499 Mm³

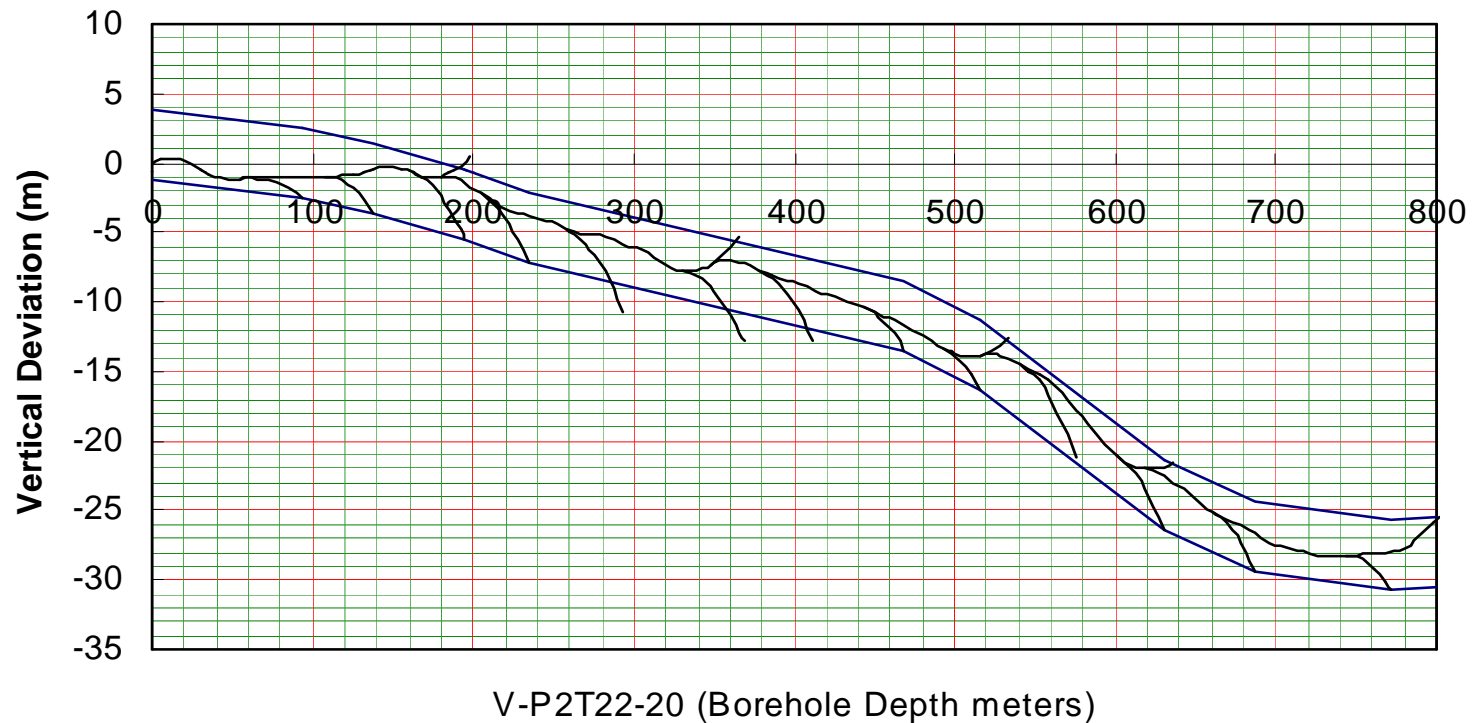
The degas effect of SAADEC

Through 2005 – 2007, the degas ratio in SAADEC is between 75% -83%.

Only less than a quarter CMM emitted through ventilator.

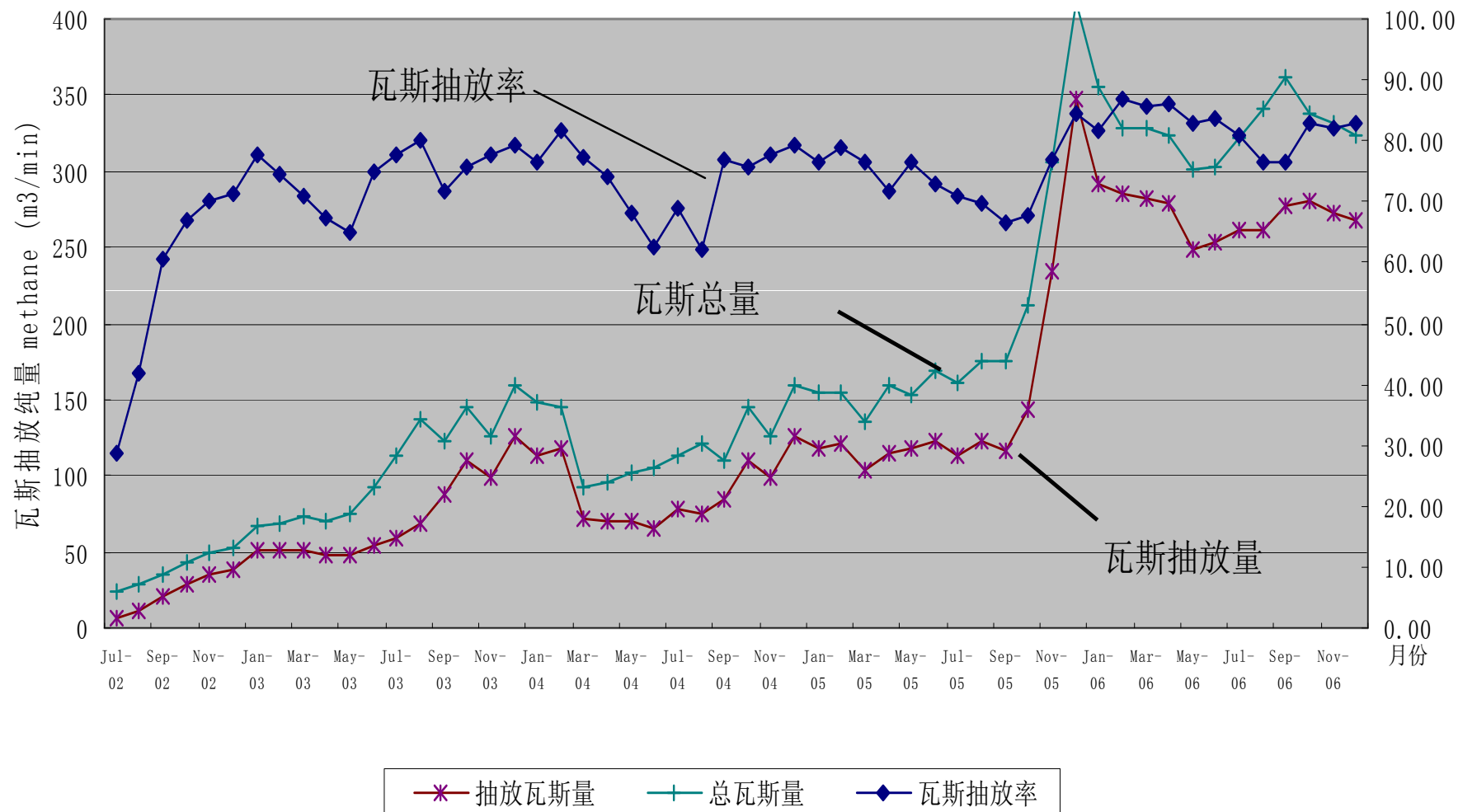
Most of the CMM is captured through degas system.

The profile of the directional borehole



山西亚美大宁能源有限公司2002-2006年瓦斯抽放效率

瓦斯抽放率%



3. The utilization of SAADEC

The CMM gas utilization in SAADEC

- There are 5 CMM gas utilization means right now in SAADEC, there are all mainly served as clean fuel
- 1. Air heaters served as winter warm intake air
- 2-1. Two vapor boilers (2*6 t/h heat)
- 2-2. Three boilers (2+4*2 t/h heat)
- 3. The CMM gas air conditioning
- 4. Dining and housing cooking
- 5. Power generation with CMM gas 6MW (500kw*9 +2000kw)

Power generation with CMM gas



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The CMM gas air conditioning burner



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It is planned a 20MW CMM gas
power generation plant in
SAADEC

Thanks for your attention

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